

BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT

RULE 252 - STATIONARY INTERNAL COMBUSTION ENGINES

(Adopted December 16, 2004)

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RULE 252

- 1 PURPOSE:** To limit emissions of nitrogen oxides (NO_x) and carbon monoxide (CO) from stationary internal combustion engines.
- 2 APPLICABILITY:** The provisions of this Rule shall apply to any gaseous, diesel, or any other liquid-fueled stationary internal combustion engine within the boundaries of the Butte County Air Quality Management District (DISTRICT).
- 3 EXEMPTIONS:** Except for the administrative requirements of Section 6.4 of this Rule, the provisions of this Rule shall not apply to the following engines:
 - 3.1** Any engine used exclusively for agricultural operations in the growing of crops or raising of fowl or animals;
 - 3.2** Any engine for which the Air Pollution Control Officer (APCO) has determined it is not technically or economically feasible to comply with the Reasonably Available Control Technology (RACT) emission limitations;
 - 3.3** Any diesel-fueled Emergency Standby Engine operated no more than 100 hours per calendar year for non-emergency purposes as determined by a non-resetting hour meter;
 - 3.4** Any Emergency Standby Engine, except diesel-fueled engines, operated less than 200 hours per calendar year for non emergency purposes as determined by a non resetting hour meter;
 - 3.5** Any engine rated by the manufacturer at 50 brake horsepower (bhp) or less, if maintained to manufacturers specifications;
 - 3.6** Gas turbine engines;
 - 3.7** Engines operated exclusively for fire fighting or flood control;
 - 3.8** Laboratory engines operated exclusively in research and testing; and,
 - 3.9** Portable internal combustion engines which have been registered under the State portable equipment regulation contained in Sections 2450-2465, Title 13, California Code of Regulations.

4 DEFINITIONS

- 4.1 Emergency:** Any situation arising from sudden and reasonably unforeseeable natural disaster such as earthquake, flood, wildfire, or other act of God, or events beyond the control of the operator, employees, or contractors, or accidents which require the operation of internal combustion engine(s) to provide primary mechanical or electrical power in its abatement or control.
- 4.2 Emergency Standby Engine:** Any internal combustion engine operated only during emergencies and for maintenance and testing.
- 4.3 Lean-Burn Engine:** Any spark or compression ignited internal combustion engine that is operated with an exhaust gas stream oxygen concentration of 4% by volume, or greater. The exhaust gas oxygen content shall be determined from the uncontrolled exhaust gas stream.
- 4.4 Maintenance and Testing:** Any spark or compression ignited internal combustion engine that is operated to:
- 4.4.1** Evaluate the ability of the engine or its supported equipment to perform during an emergency. “Supported Equipment” includes, but is not limited to, generators, pumps, transformers, switchgear, and breakers; or
 - 4.4.2** Facilitate the training of personnel on emergency activities; or
 - 4.4.3** Provide electrical power for the facility when the utility distribution company takes its power distribution equipment offline to service that equipment for any reason that does not qualify as an emergency use.
- 4.5 Rated Brake Horsepower:** The maximum rated brake horsepower (bhp) specified for the engine by the manufacturer and listed on the nameplate for the unit, regardless of any derating.
- 4.6 Rich-Burn Engine:** Any spark or compression ignited internal combustion engine that is operated with an exhaust gas stream oxygen concentration of less than 4% by volume. The exhaust gas oxygen content shall be determined from the uncontrolled exhaust gas stream.
- 4.7 Stationary Internal Combustion Engine:** Any spark or compression ignited internal combustion engine that is attached to a foundation, frame, or other support and is stationary while in operation, or is operated at a site for more than six (6) consecutive months, including:
- 4.7.1** Any engine that replaces an existing engine at a location and which is intended to perform the same function as the unit being replaced will be included in calculating the consecutive time period. In that case, the cumulative time of both emissions units, including the time between removal of the original unit and the installation of the

replacement unit, would be counted toward the consecutive residence time period; or,

- 4.7.2 Any engine that remains or will remain at a location for less than six (6) consecutive months where such a period represents the full length of the normal operation of the engine at a stationary source, such as a seasonal source; or
- 4.7.3 Any engine that is removed from one location for a period and then returned to the same location in an attempt to circumvent the residence time limit of six (6) months. The period during which the emissions unit is maintained at a storage facility shall be excluded from determining the above residency requirement.

5 REQUIREMENTS

5.1 Emission Limitations: Any stationary internal combustion engine, other than those engines specified in Section 3 of this Rule, rated at greater than 50 bhp but less than 300 bhp shall not be operated in a manner that results in emissions exceeding the limits listed below:

5.1.1	Engine Type	NOx (ppmv)	CO (ppmv)
5.1.2	Rich Burn	640	4500
5.1.3	Lean Burn	740	4500
5.1.4	Diesel Fired	600	4500
5.1.5	All other liquid fired	90	4500

ppmv = parts per million by volume corrected to 15% oxygen, dry basis

NOx = oxides of nitrogen, calculated as equivalent NO₂

CO = carbon monoxide

5.2 Emission Limitations: Any stationary internal combustion engine, other than those engines specified in Section 3, rated at greater than or equal to 300 bhp shall not be operated in a manner that results in emissions exceeding the limits listed below:

5.2.1	Engine Type	NOx (ppmv)	CO (ppmv)
5.2.2	Rich Burn	90	4500
5.2.3	Lean Burn	150	4500
5.2.4	Diesel Fired	600	4500
5.2.5	All other liquid fired	90	4500

ppmv = parts per million by volume corrected to 15% oxygen, dry basis

NOx = oxides of nitrogen, calculated as equivalent NO₂

CO = carbon monoxide

5.3 Emission Limitations: Except for visible emissions from diesel pile-driving

hammers and any diesel auxiliary engine or generator used exclusively to operate a drinking water system, no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 1 or equivalent 20% opacity as determined by U. S. Environmental Protection Agency (EPA) Method 9. Diesel pile-driven hammers shall comply with the applicable provisions of Section 41701.5 of the California Health and Safety Code. Diesel auxiliary engines or generators used exclusively to operate a drinking water system shall comply with the applicable provisions of Section 41701.6 of the California Health and Safety Code.

6 ADMINISTRATIVE REQUIREMENTS

6.1 Required Information: No later than July 1, 2005 the owner or operator of any existing engine subject to the provisions of this Rule shall provide the following information, if such information has not already been provided:

- 6.1.1 Permit to Operate number;
- 6.1.2 Engine manufacturer;
- 6.1.3 Model designation;
- 6.1.4 Rated brake horsepower;
- 6.1.5 Type of fuel and type of ignition;
- 6.1.6 Combustion type: rich-burn or lean-burn;
- 6.1.7 Two (2) or four (4) cycle;
- 6.1.8 Any installed emission control equipment.

6.2 Compliance Schedule: No later than January 1, 2006 the owner or operator of each internal combustion engine subject to the provisions of this Rule shall identify the type of control equipment to be applied to each stationary engine, or shall provide support documentation sufficient to demonstrate that the engine is in compliance with the emission limits of this Rule.

6.3 Recordkeeping: The owner or operator of any stationary internal combustion engine subject to the provisions of this Rule shall maintain an engine operating log for each month or any part of a month that the device is operated that includes the following:

- 6.3.1 Total recorded hours of operation, calculated hours of operation based upon fuel usage, or other calculation procedure to determine hours of operation based upon a method authorized by the APCO;
- 6.3.2 Type of fuel combusted, measured quantity of fuel used, or calculated fuel usage based upon a method authorized by the APCO;
- 6.3.3 Date(s) and type of maintenance performed;
- 6.3.4 Annual emission test results using portable analyzer as specified in Section 7.1.1 of this Rule;
- 6.3.5 This information shall be maintained for a period of two (2) years and shall be submitted to the APCO upon request.

- 6.4 Exempt engines:** Any owner or operator claiming an exemption under Section 3.1 through 3.9 of this Rule shall:
- 6.4.1** Submit to the District support documentation identifying reasons for the exemption no later than July 1, 2005. Documentation shall be submitted for each exemption applied for and shall contain a list that provides the following information, if applicable:
 - 6.4.1.1** Engine manufacturer;
 - 6.4.1.2** Model designation;
 - 6.4.1.3** Rated brake horsepower;
 - 6.4.1.4** Type of fuel and type of ignition;
 - 6.4.1.5** Combustion type: rich-burn or lean-burn;
 - 6.4.1.6** Two (2) or four (4) cycle;
 - 6.4.1.7** Gas turbine; and/or
 - 6.4.1.8** Portable equipment registration or certificate number
 - 6.4.2** Maintain annual operating records and/or support documentation necessary to claim exemption. This information shall be maintained for a period of not less than two years and shall be submitted to the APCO upon request.

7 COMPLIANCE TESTING

- 7.1 Testing Schedule:** The owner or operator of any stationary internal combustion engine subject to the provisions of this Rule, except those engines utilizing Continuous Emission Monitoring (CEM), or are exempt under Section 3 of this Rule, shall demonstrate compliance with the requirements of Section 5.1 or 5.2 of this Rule by conducting an initial emission test in accordance with methods specified in Section 7.2 of this Rule.
- 7.1.1** Upon successful demonstration of initial compliance, the owner or operator, as an inspection and maintenance program, shall complete annual testing of emissions with a portable analyzer as specified in Section 7.2. If any emission values are found to be greater than the limits specified in Section 5.1 or 5.2, immediate corrective action shall be taken and the DISTRICT shall be advised of the condition of excessive emissions. Record keeping of all results of this inspection and maintenance program shall be required as specified in Section 6.2 of this Rule.
 - 7.1.2** For compliance demonstration purposes, and upon request by the DISTRICT, the testing of emissions required in Section 7.1.1 above shall be conducted in the presence of DISTRICT staff. Testing of emissions pursuant to Section 7.2 may be required at any time for enforcement purposes.
- 7.2 Test Methods:** Compliance with the requirements of Section 5.1 or 5.2 shall be determined at the manufacturer's recommended maximum horsepower for

continuous operation, normal operating level, or consistent with limitations listed in the Permit to Operate, in accordance with the following test procedures:

- 7.2.1** Oxides of Nitrogen shall be determined by EPA Method 7E, or California Air Resources Board (CARB) Method 100, or a portable analyzer*.
- 7.2.2** Carbon Monoxide shall be determined by EPA Method 10, or CARB Method 100, or a portable analyzer*.
- 7.2.3** Oxygen Content shall be determined by EPA Method 3, 3A, or CARB Method 100, or a portable analyzer*.
- 7.2.4** NO_x emission limitations specified in Section 5.1 and 5.2 of this Rule shall be expressed as nitrogen dioxide (NO₂). All ppmv emission limitations are referenced at 15% volume stack gas oxygen on a dry basis. Source test data point intervals shall be no greater than five (5) minutes and data points shall be averaged over no less than fifteen (15) minutes of engine operation.

*Note: Specific portable analyzers may be used for the measurement of oxides of nitrogen, carbon monoxide, and oxygen which do not meet the requirements of the test methods specified in Sections 7.2.1, 7.2.2 and 7.2.3 of this Rule provided that evidence accompanies each test report that instrument operation conformed to the manufacturer's recommendations and that the instrument(s) used responded appropriately to calibration gases both before and after testing, and provided that measurements made by the methods specified in Sections 7.2.1, 7.2.2 and 7.2.3 shall be recognized as more reliable in any dispute involving measurements made by different methods. Evidence of instrument response stability shall be provided if calibration checks are not performed at the test site immediately before and after testing.

7.3 Initial Compliance Schedule: Owners or operators of engines subject to the requirements of Section 5.1 and/or 5.2 shall comply with the requirements of this Rule by the following schedule:

- 7.3.1** No later than July 1, 2005 submit a complete application for an Authority to Construct permit for all modifications to each engine required to comply with Section 5.1 or 5.2, or shall provide support documentation sufficient to demonstrate that each engine is in compliance with the emission limits of this Rule.
- 7.3.2** No later than January 1, 2006 complete all modifications to each engine and provide to the District support documentation sufficient to demonstrate full compliance with all provisions of this Rule.